TC-D509

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

• TC-D509 is deck section in LBT-A57CD/A57CDM/D509CD.

TC-D509 is based on model TC-D507.
As only difference parts of TC-D507 in this service manual.
Refer to TC-D507 service manual previously issued for the other information.

DIFFERENCE PARTS LIST

TC-D507 service manual				TC-D509
Page	Ref. No.	Description	Part No. (Destination)	Part No.
19	1	LID (A) ASSY, CASSETTE	X-3364-710-1 (except for IT) X-3364-711-1 (IT)	X-3364-710-1
	2	LID (B) ASSY, CASSETTE	X-3364-712-1 (except for IT) X-3364-713-1 (IT)	X-3366-399-1
	5	CASE	*4-939-803-31 (except for IT) *4-939-803-71 (IT)	*4-939-803-31
	6	PANEL, BACK	*3-377-136-11 (except for G) *3-377-136-21 (G)	*3-387-099-01 (except for G) *3-387-099-12 (G)
20	51	PANEL ASSY, FRONT	X-3364-706-1 (except for IT) X-3364-707-1 (IT)	X-3364-706-1
	56	KNOB (SLIDE)	*3-377-110-01 (except for IT) *3-377-110-11 (IT)	*3-377-110-01

• Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

STEREO CASSETTE DECK

SONY®

9-957-806-11

Sony Corporation
Audio Group

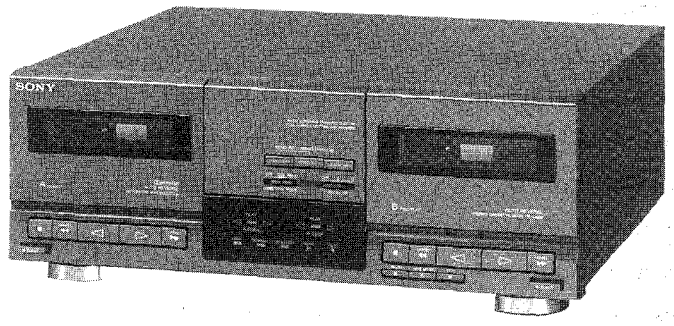
English
93C0462-1
Printed in Japan
© 1993. 3

Published by Audio Corporate Planning Group

TC-D507

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model
East European Model



• This set is the deck section in LBT-D507/D507CD/D507CDM.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⊡⊡ are trademarks of Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	TC-H1600
Tape Transport Mechanism Type	DECK A : TCM-190RA12C
	DECK B : TCM-190RB22C

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF With Type IV cassette (Sony METAL-ES) 30 Hz to 15 kHz (±3 dB) With Type II cassette (Sony UX-S) 40 Hz to 14 kHz (±3 dB) With Type I cassette (Sony HF-S) 40 Hz to 14 kHz (±3 dB)
Wow and flutter	±0.2 % (DIN)
Weight	Approx. 3.4 kg
Dimensions	Approx. 355 × 131 × 304 mm (w/h/d, *including projections*)

Design and specifications are subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

MICROFILM

CASSETTE DECK

SONY®

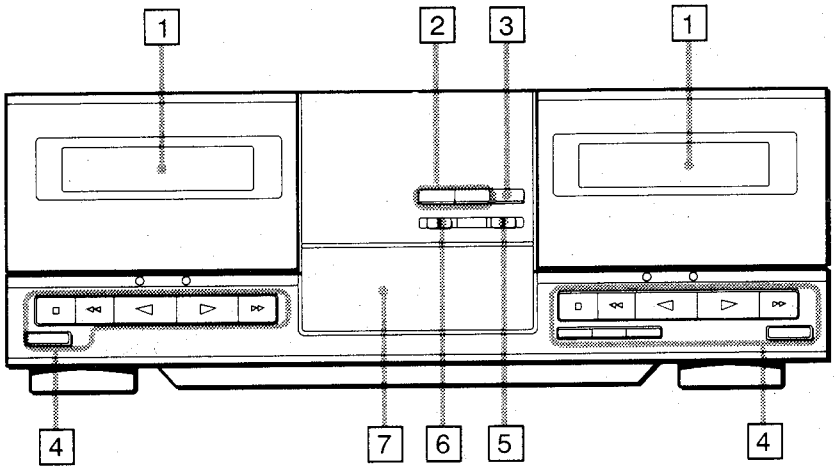
TABLE OF CONTENTS

Section	*Title*	*Page*
SECTION 1.	GENERAL	3
SECTION 2.	DISASSEMBLY	4
SECTION 3.	MECHANICAL ADJUSTMENTS	6
SECTION 4.	ELECTRICAL ADJUSTMENTS	6
SECTION 5.	DIAGRAMS	
5-1.	Circuit Boards Location	10
5-2.	Semiconductor Lead Layouts	10
5-3.	Printed Wiring Boards	11
5-4.	Schematic Diagrams	15
SECTION 6.	EXPLODED VIEWS	
6-1.	Overall Section	19
6-2.	Front Panel Section	20
6-3.	Mechanism-1 Section	21
6-4.	Mechanism-2 Section	22
SECTION 7.	ELECTRICAL PARTS LIST	23

SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of Controls



1 Cassette holders
2 SYNCHRO DUBBING buttons (44)
3 CD SYNCHRO button (48)
4 Tape operation buttons
◀◀ Leftward fast winding/AMS*,
▶▶ Rightward fast winding/AMS*,
▶ Forward play, ◀ Reverse play,
■ Stop, ⏏ Eject, ❚❚ Pause (deck B only),
○ Record muting (deck B only),
● Record (deck B only)
5 DOLBY NR (noise reduction) switch (36)
6 DIRECTION MODE selector (32, 36, 44, 48)
7 Display window

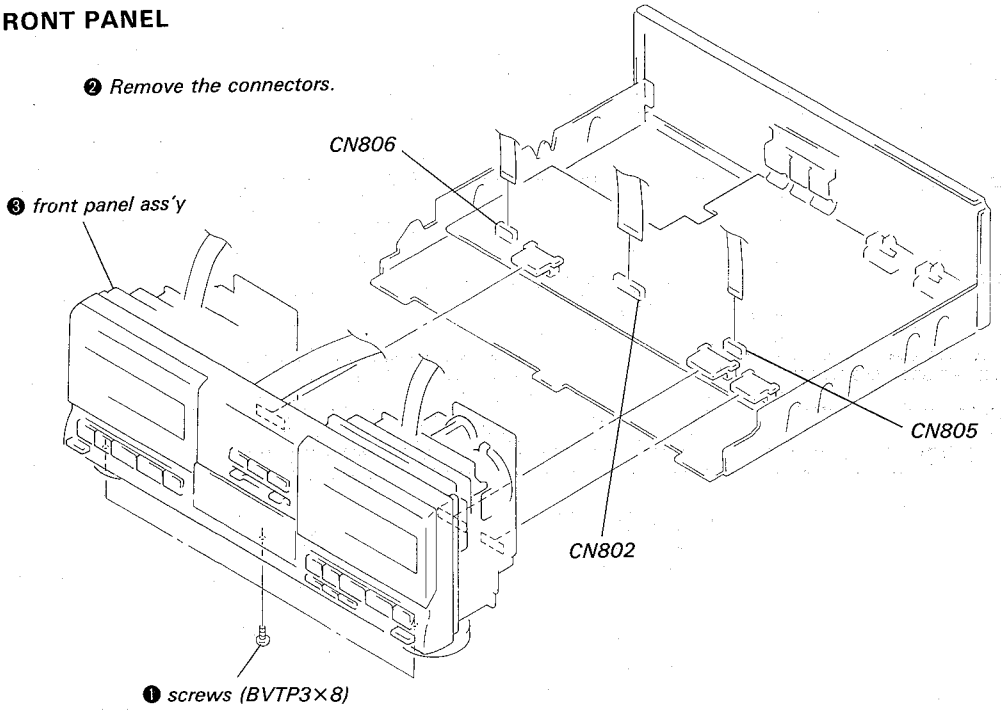
* AMS is the abbreviation of Automatic Music Sensor.

SECTION 2
DISASSEMBLY

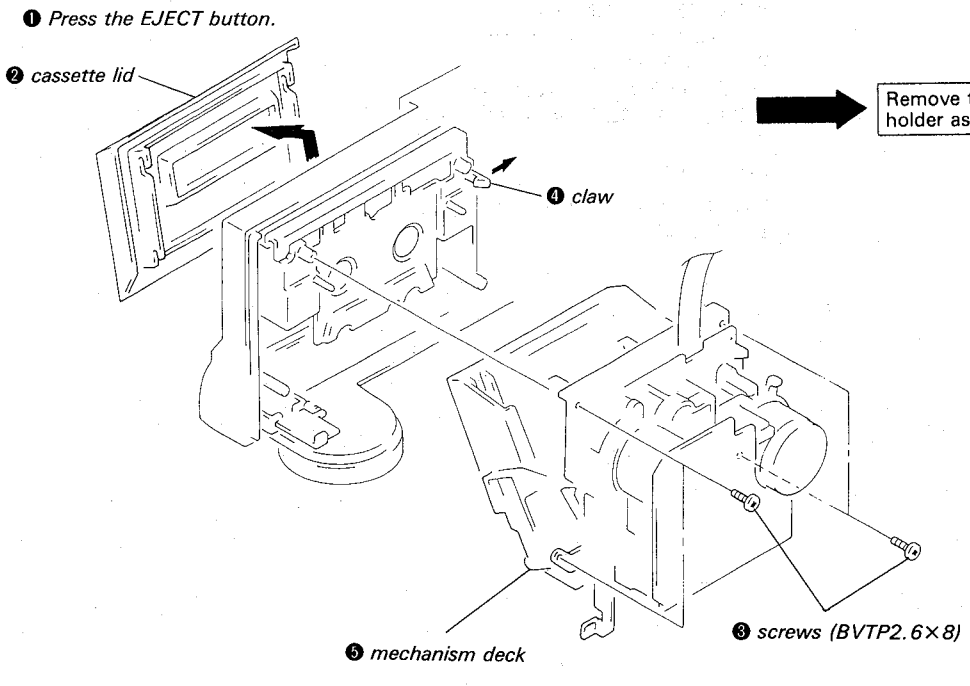
NOTE: Follow the disassembly procedure in the numerical order given.

CASE
Unscrew the four case attachment screws M3×8 and remove the case.

FRONT PANEL

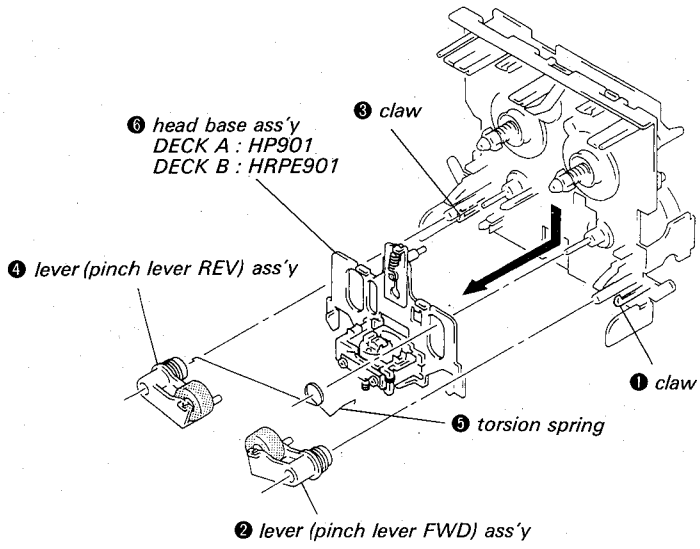


MECHANISM DECK

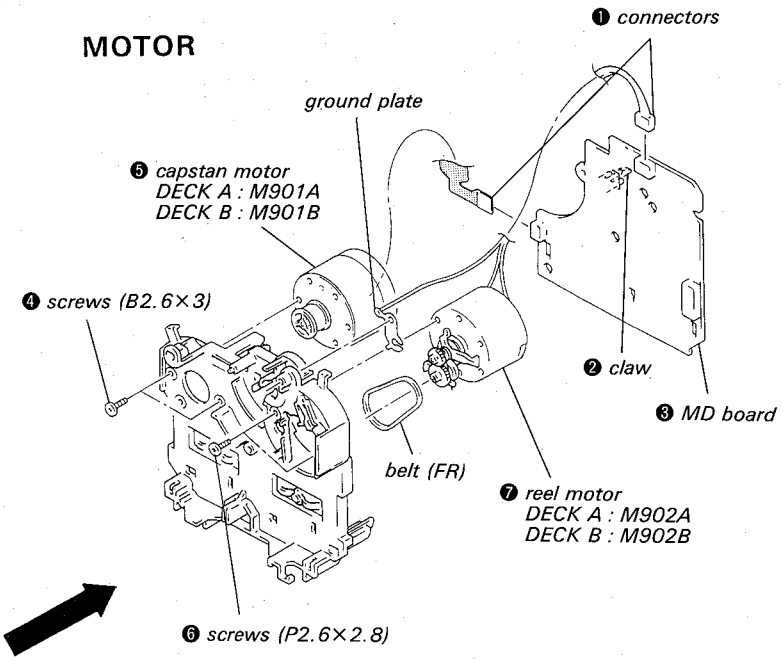


Remove the cassette holder assembly.

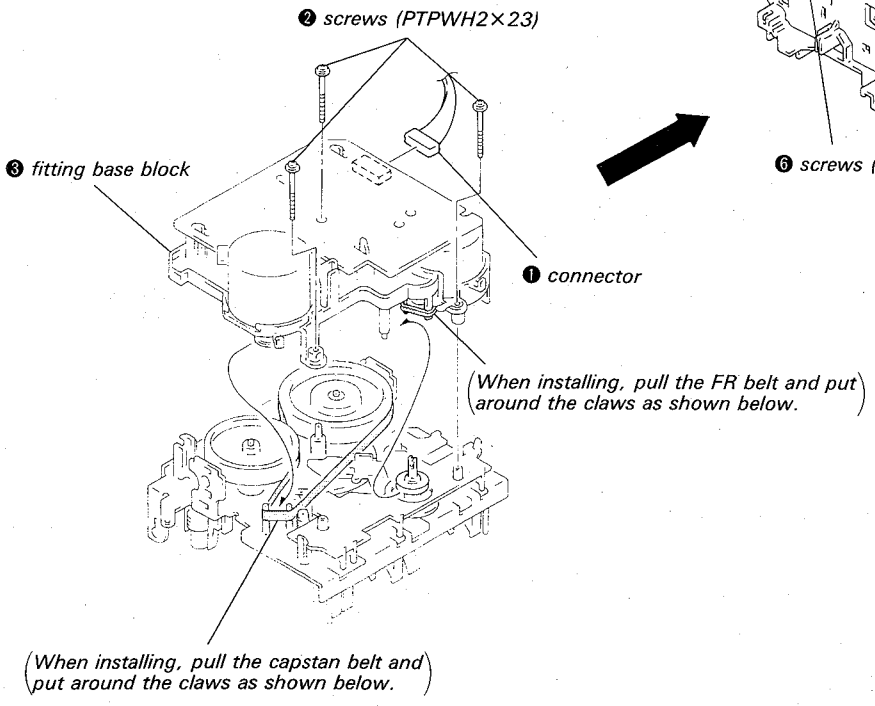
HEAD



MOTOR



FITTING BASE BLOCK


❷ screws (PTPWH2×23)
❸ fitting base block
❶ connector
(When installing, pull the FR belt and put around the claws as shown below.)
(When installing, pull the capstan belt and put around the claws as shown below.)

SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcoholmoistened swab;
   record/playback/erase head
   pinch roller rubber belts
   capstan idler
2. Demagnetize the record/playback head with a head demagnetizer.
   (Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed in the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	35 to 60g · cm (0.49 to 0.83 oz · inch)
FWD Back tension	CQ-102C	2 to 6g·cm (0.03 to 0.08 oz·inch)
REV	CQ-102RC	35 to 60g · cm (0.49 to 0.83 oz · inch)
REV Back tension	CQ-102RC	2 to 6g·cm (0.03 to 0.08 oz·inch)
FF, REW	CQ-201B	70 to 110g · cm (0.98 to 1.52 oz · inch)

SECTION 4
ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in the service manual. As a rule, adjustment about playback should be performed before adjustment about recording.
The adjustments should be performed for both L-CH and R-CH.

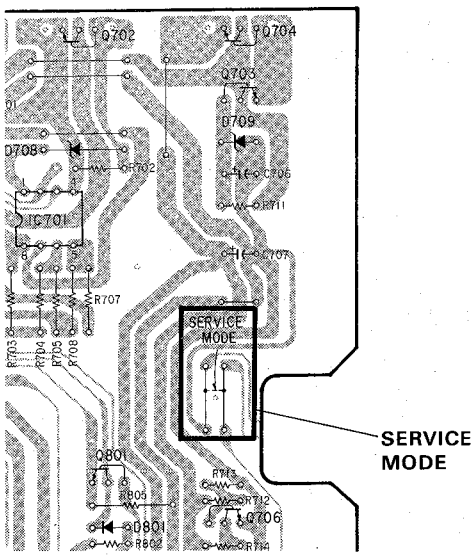
● Test Mode

The Test mode is acrivated by shorting Test Poing Service mode (IC801 64 pin changes over to "L") with the POWER switch in OFF position, then turning on the POWER switch.

In this mode, the following functions operate:

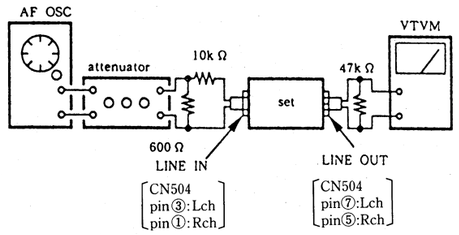
1. Source monitor
   Line mute is cancelled during recording.
2. High speed playback
   High speed playback is executed when the HIGH SPEED (DUBBING) button is jpressed during playback. Normal speed playback is restored when the button is pressed again.
3. Record memory
   The tape counter is reset to "0" at the record start point.
   After adjustment, open the Service mode to cancel the Test mode.

[MAIN BOARD] (CONDUCTOR SIDE)



- Switches and controls should be set as follows unless otherwise specified.
  DD NR switch : OFF
  DIR MODE switch : ⇄
- Standard Record:
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

–Record Mode–



Standard Input Level

input terminal	LINE IN
source impedance	10kΩ
input level	0.25V (−10dB)

Standard Output Level

output terminal	LINE OUT
load impedance	47kΩ
output level	0.44V (−5dB)

Test tape

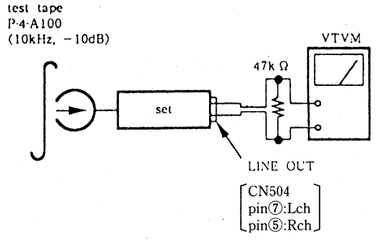
Type	Signal	Used for
P-4-A100	10kHz, −10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment

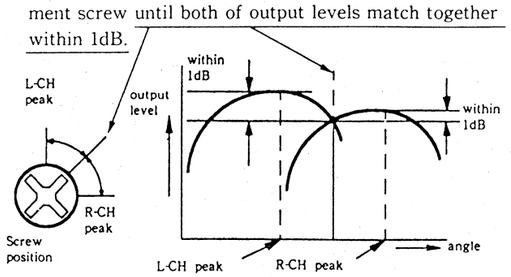
DECK A DECK B

Procedure :

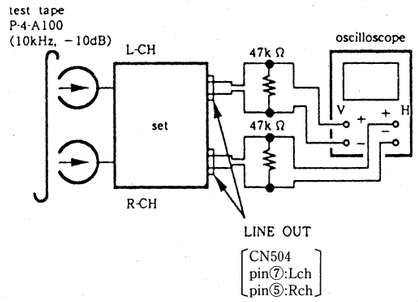
1. Mode: FWD playback

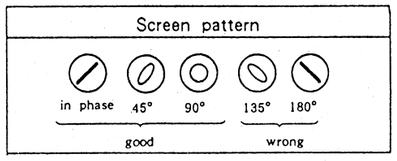


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



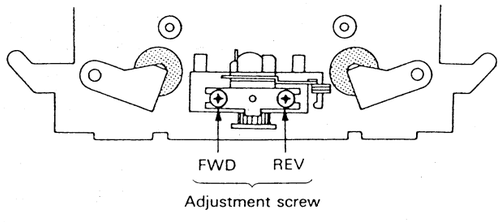
3. Phase Check
   Mode: playback





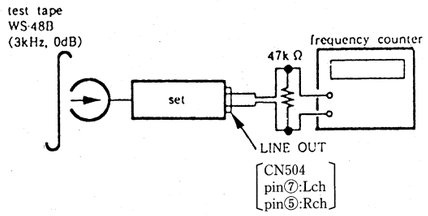
4. Set in the REV mode and repeat the step 1-3.
5. After the adjustment, lock the screws with locking compound.

Adjustment Location : Record/playback head



Tape Speed Adjustment DECK A DECK B

Procedure :
Mode: playback



Perform high speed adjustment before normal speed adjustment.

(High speed adjustment)
1. Continue pressing the SYNCHRO DUBBING HIGH SPEED switch.
2. Check that frequency counter reading is within the standard value 6,000±60Hz.
3. If out of the standard, adjust each RV72 so that the frequency counter reading satisfies 6,000±60Hz on both A and B decks.
4. Change over to Rev playback status, and repeat the above steps 1 to 3.

(Normal speed adjustment)
1. Continue pressing the SYNCHRO DUBBING NORM SPEED switch.
2. Check that the frequency counter reading is within the standard value 3,000±30Hz.
3. If out of the standard, adjust each RV71 so that the frequency counter reading satisfies 3,000±30Hz on both A and B decks.
4. Change over to REV playback status, and repeat the above steps 1 to 3.

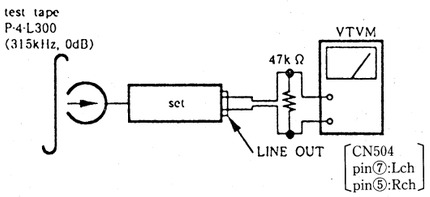
Frequency difference between the beginning and the end of the tape should be within 3%.
Frequency difference between deck A and deck B the beginning of the tape should be within 1.0%.

Adjustment Location :
MD-A, MD-B board

Playback Level Adjustment

DECK A DECK B

Procedure :
Mode: playback



Adjust RV11 (L-CH), RV21 (R-CH) so that the reading on VTVM meets the adjustment limits below.

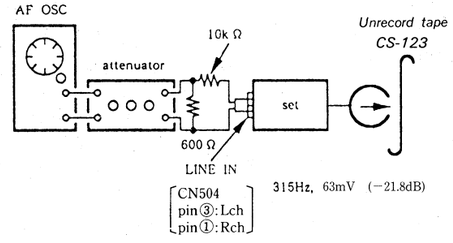
Adjustment Limits :
LINE OUT level: −7.7±0.5dB (0.30−0.33V)
Level difference between channels: less than 0.5dB
Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD-A, MD-B board

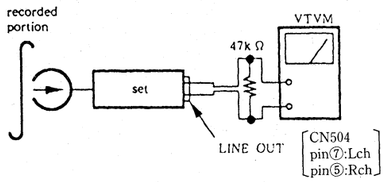
Record Bias Adjustment DECK B

Setting :
REC LEVEL control : Standard Record (See page 7).

Procedure :
1. Mode : record



2. Mode : playback



Playback the signal recorded in step 1.
Confirm that the 10kHz playback output is 0±0.5dB relative to the 315Hz output. If necessary, adjust RV12 (L-CH), RV22 (R-CH) and repeat the steps given above.

Adjustment Location : MD-B board

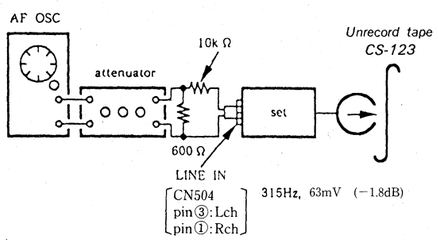
Record Level Adjustment DECK B

Setting :

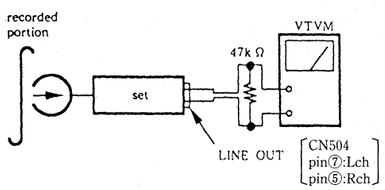
REC LEVEL control : Standard Record (See page 7).

Procedure :

1. Mode: record



2. Mode: playback



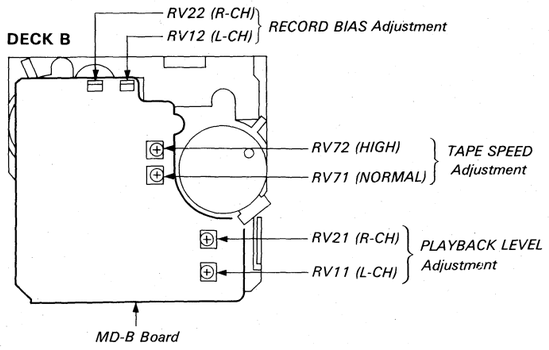
3. Playback the signal recorded in step 1.
Confirm that the signal level is within the adjustment limits below. If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat the step 1-2.

Adjustment Limits : −3.8dB±0.5dB (0.47−0.53V)

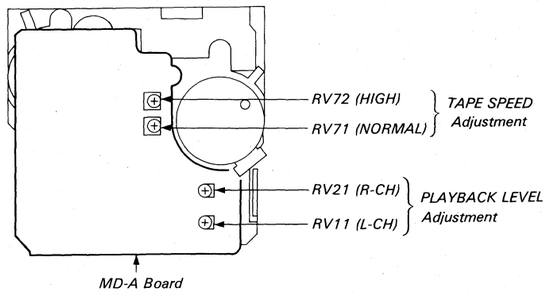
Adjustment Location : MAIN board (component side)

−Adjustment Parts Location Diagrams−

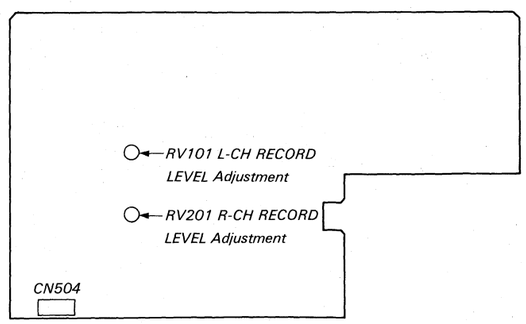
DECK B



DECK A

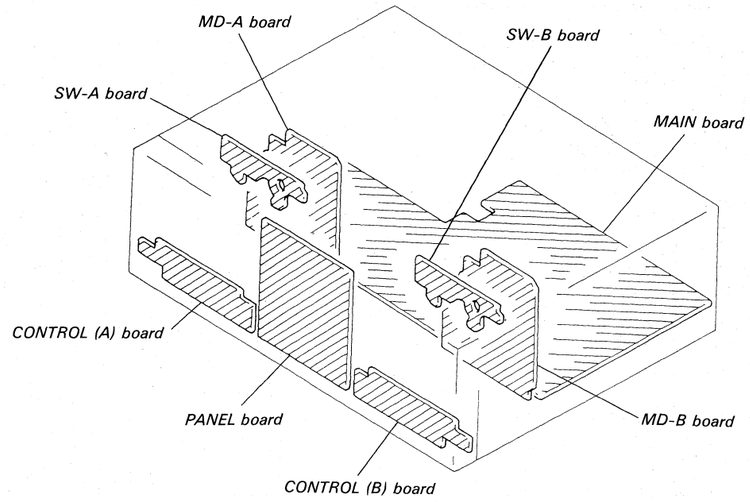


MAIN BOARD (COMPONENT SIDE)



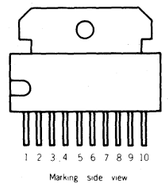
SECTION 5
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



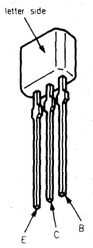
5-2. SEMICONDUCTOR LEAD LAYOUTS

TA7272P

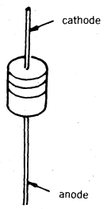


2SB1013-4

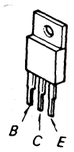
DTC144ES



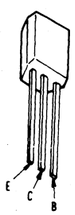
HZS6A1N
UZL-7L2



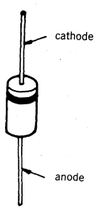
2SB1094-LK
2SD2012



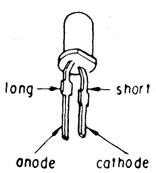
2SA1317-STU
2SC2603-EF
DTA114ES
DTA144ES
DTC143TS



1N4148M
10E2N



SEL2210S-C
SEL2410E-D
SEL2910A-C



5-3. PRINTED WIRING BOARDS

● **Semiconductor Location**

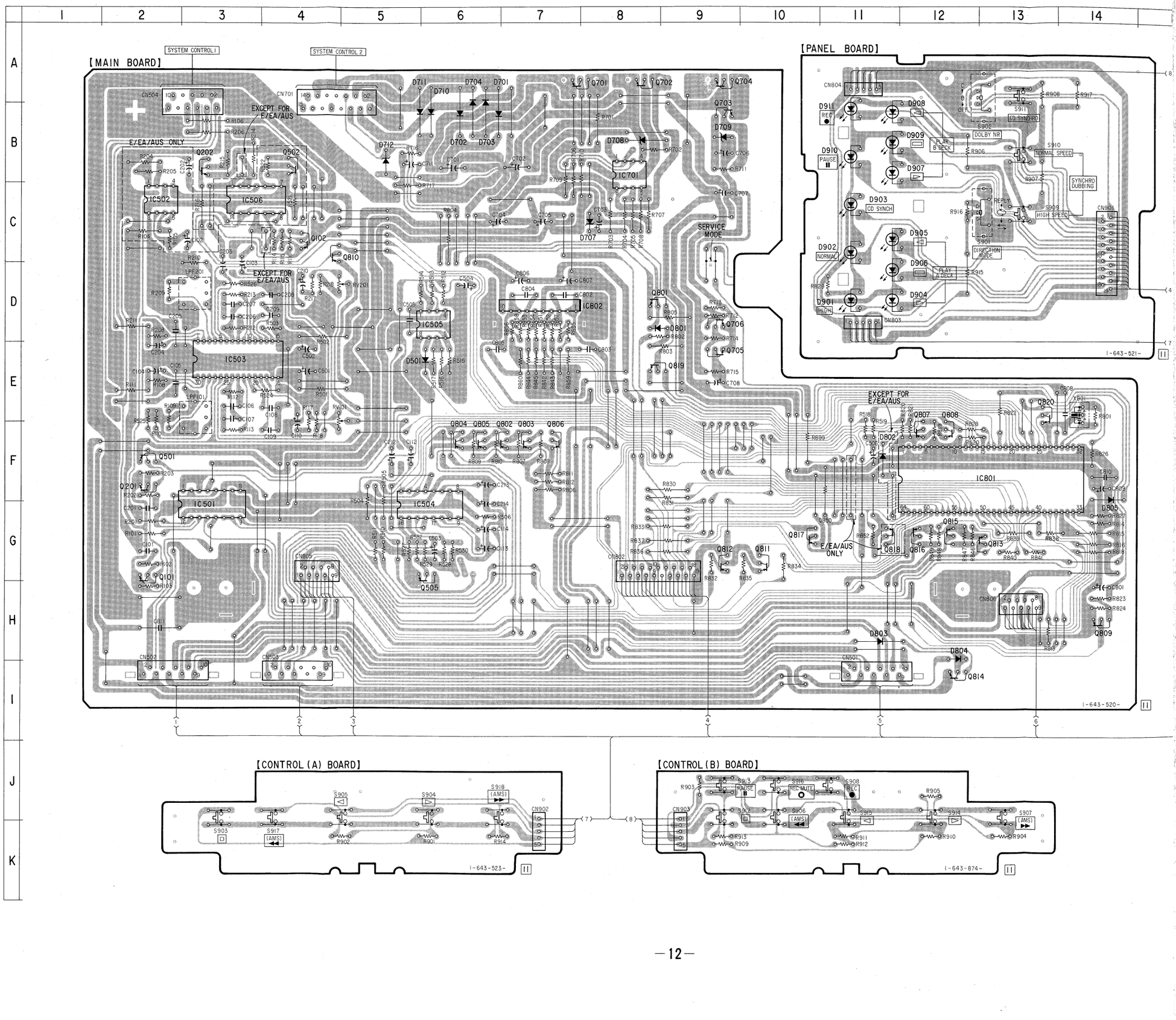
Ref. No.	Location	Ref. No.	Location
D31	H-24	Q51	G-25
D501	E-6	Q52	G-25
D701	B-6	Q53	G-25
D702	B-6	Q71(MD-A)	H-20
D703	B-6	Q71(MD-B)	H-28
D704	B-6	Q101	G-2
D707	C-8	Q102	C-4
D708	B-8	Q201	F-2
D709	B-9	Q202	B-3
D710	B-6	Q501	F-2
D711	B-5	Q502	B-4
D712	B-5	Q505	G-6
D801	D-9	Q701	A-8
D802	F-11	Q702	A-8
D803	H-11	Q703	B-9
D804	H-12	Q704	A-9
D805	F-14	Q705	E-9
D901	D-11	Q706	D-9
D902	C-11	Q801	D-9
D903	C-11	Q802	F-7
D904	D-11	Q803	F-7
D905	C-11	Q804	F-6
D906	D-11	Q805	F-6
D907	B-11	Q806	F-7
D908	B-11	Q807	F-12
D909	B-11	Q808	F-12
D910	B-11	Q809	H-14
D911	B-11	Q810	C-4
		Q811	G-10
IC31(MD-A)	H-19	Q812	G-9
IC31(MD-B)	H-26	Q813	G-13
IC81(SW-A)	B-20	Q814	I-12
IC81(SW-B)	B-27	Q815	G-12
IC501	G-3	Q816	G-12
IC502	C-2	Q817	G-10
IC503	E-3	Q818	G-11
IC504	G-6	Q819	E-9
IC505	D-6	Q820	E-13
IC506	C-3		
IC701	B-8		
IC801	F-13		
IC802	D-6		

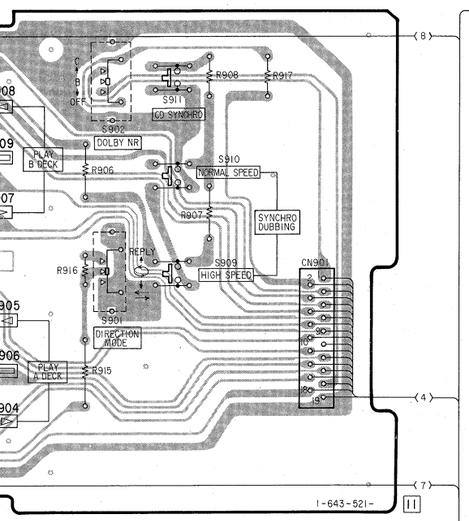
Note:

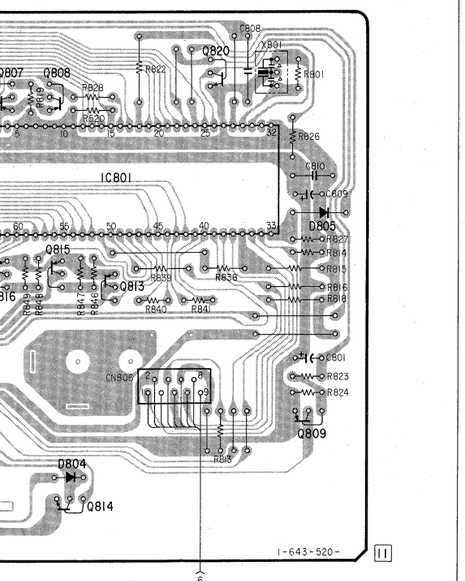
● ○—— : parts extracted from the component side.

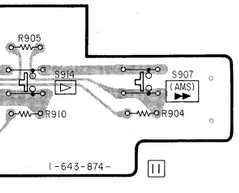
EA : Saudi Arabia

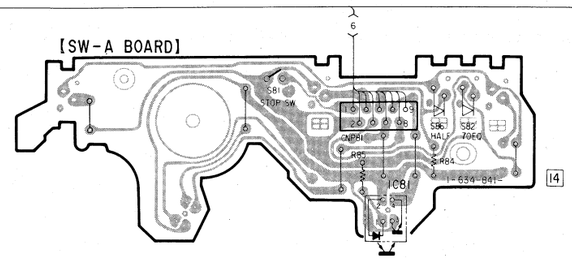
AUS : Australian

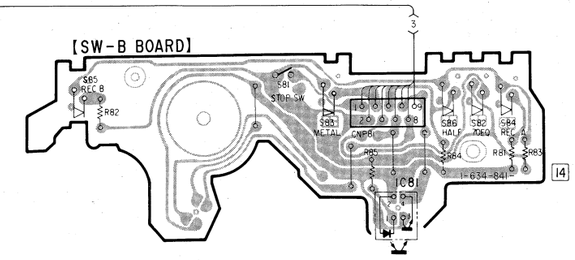


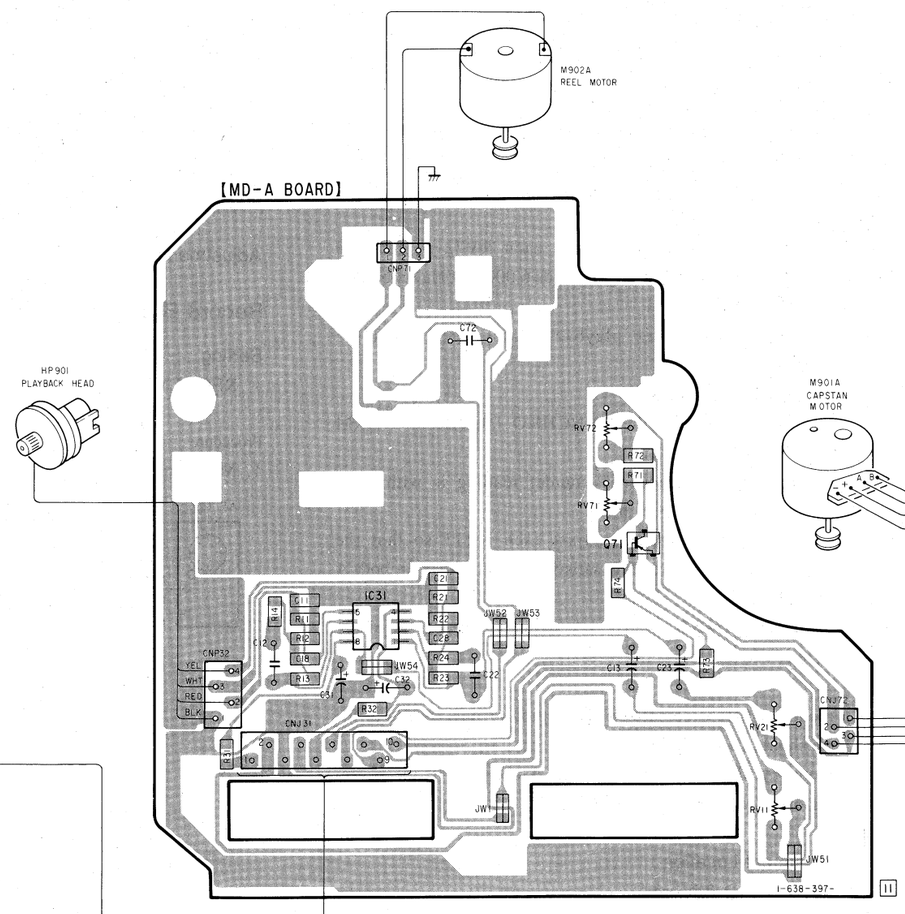

R908
R917
S911
CD SYNCHRO
S902
DOLBY NR
PLAY B DECK
R906
S910
NORMAL SPEED
R907
SYNCHRO DUBBING
R916
REPLY
S909
HIGH SPEED
CN901
S901
DIRECTION MODE
PLAY A DECK
R915
1-643-521-
11

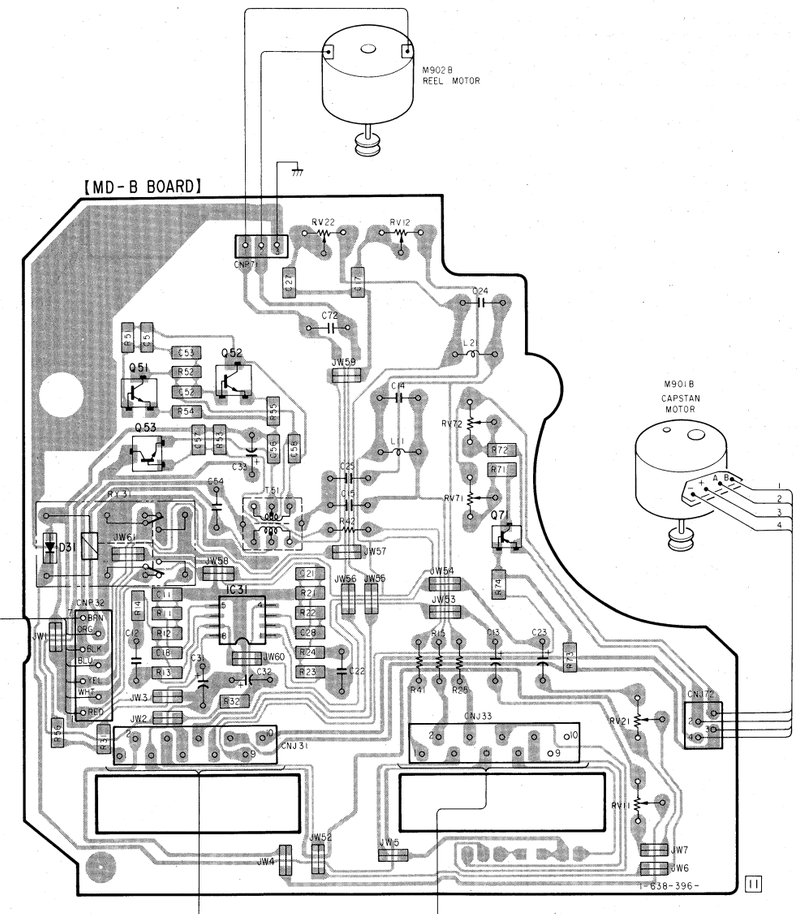

C808
Q820
XB01
Q807
Q808
R822
R828
R829
R901
R826
C810
C809
IC801
D805
R827
R814
R815
Q815
Q813
R838
R816
R818
R840
R841
C801
R823
R824
CN805
Q809
D804
Q814
1-643-520-
11


R905
S914
S907
(AMS)
R910
R904
1-643-874-
11


[SW-A BOARD]
6
S81
STOP SW
CNP81
S86
HALF
S82
70EQ
R85
R84
IC81
1-634-841-
14


[SW-B BOARD]
3
S85
REC B
R82
S81
STOP SW
S83
METAL
CNP8
S86
HALF
S82
70EQ
S84
REC A
R85
R84
R81
R83
IC81
1-634-841-
14

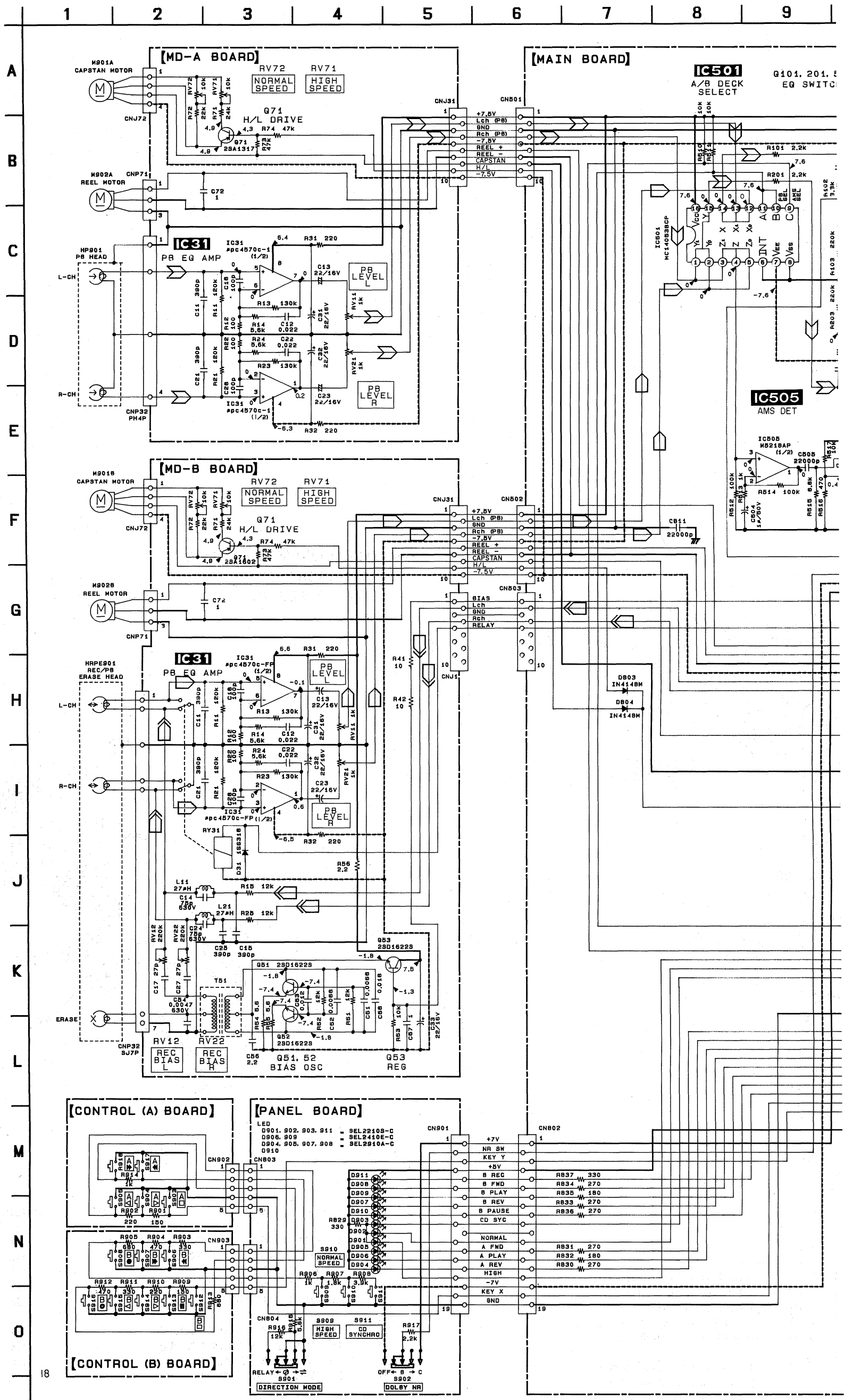

M902A
REEL MOTOR
[MD-A BOARD]
CNP71
C72
HP901
PLAYBACK HEAD
M901A
CAPSTAN
MOTOR
HRPE901
RECORD/PLAYBACK/ERASE
HEAD
RV72
R72
R71
RV71
Q71
R74
IC31
C11
R11
R62
C12
R18
R13
C31
R21
R27
R22
C28
R24
R23
C22
C32
R32
JW52
JW53
JW54
CNP32
YEL
WHT
RED
BLK
CNJ31
CNJ72
C13
C23
R25
RV21
RV11
JW51
JW1
1-638-397-
11


M902B
REEL MOTOR
[MD-B BOARD]
CNP71
RV22
RV12
R22
R12
C24
L24
C72
L12
Q51
Q52
Q53
R51
R52
R53
R54
C51
C52
C53
C54
C56
JW59
C14
L14
C25
L11
C15
L21
R42
RV72
R72
R71
RV71
Q71
R74
D31
JW61
JW58
JW57
JW56
JW55
JW54
JW53
JW60
IC31
C11
R11
R12
C28
R24
R23
C22
C32
R32
C31
C12
C16
R13
R16
CNP32
WHT
RED
BLK
BLU
YEL
WHT
RED
JW1
JW3
JW2
CNJ31
CNJ33
CNJ72
C13
C23
R25
R41
R26
RV21
RV11
JW52
JW4
JW5
JW7
JW6
1-638-396-
11

DECK-A

DECK-B

5-4. SCHEMATIC DIAGRAM



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▬▬ : B+ Line
- ▬ ▬ : B− Line
- ▭ : adjustment for repair.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
  no mark : REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - : PB (DECK A)
  - : PB (DECK B)
  - : REC (DECK B)

EA: Saudi Arabia

AUS: Australian

IC501 A/B DECK SELECT

Q101, 201, 501 EQ SWITCH

IC502 PASS AMP

IC503 DOLBY AMP

Q102, 202 MUTING

IC505 AMS DET

E, EA, AUS ONLY

EXCEPT FOR E, EA, AUS

Q502 PASS SWITCH

IC506 FUNCTION SWITCH

Q810 REC/PB SWITCH

IC802 REEL MOTOR AMP

Q816 CAPSTAN (B) CONTROL

Q815 CAPSTAN (A) CONTROL

Q813, 814 DUB H/L SWITCH

IC801 SYSTEM CONTROL

Q811, 812 LED DRIVE

Q809 RELAY DRIVE

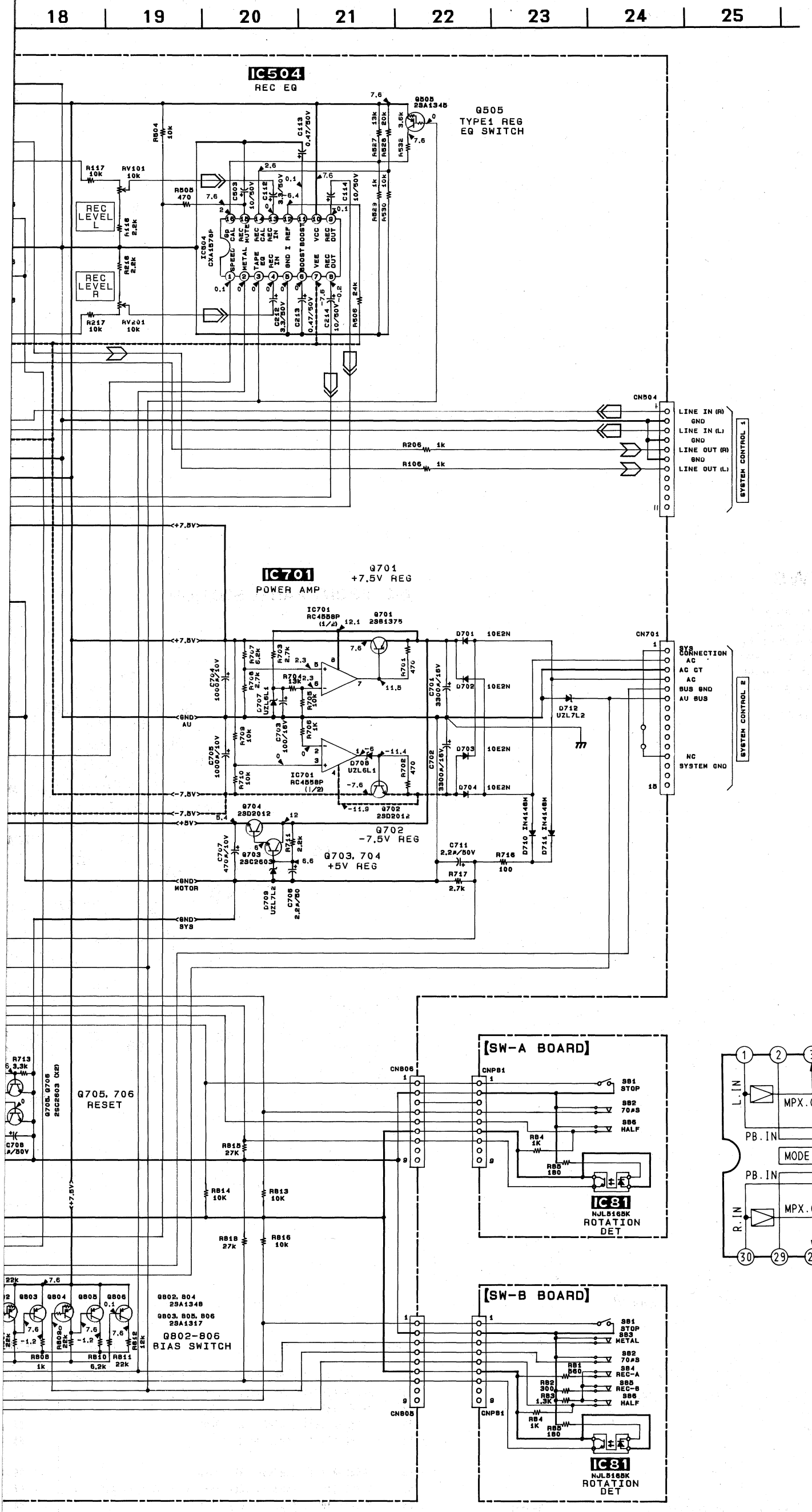
Q807, 808 LINE MUTE

Q820 SWITCHING

—SWITCHING—

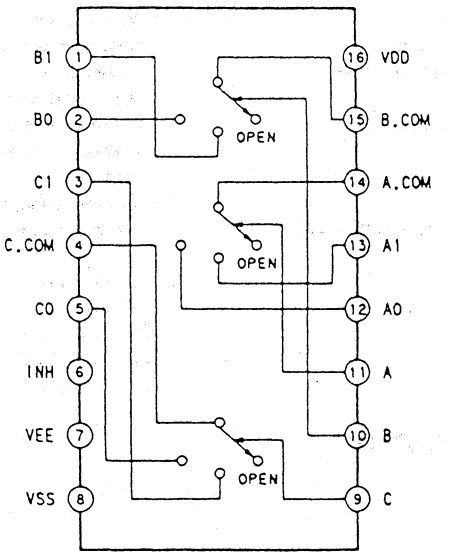
Q705, 706 RESET

Q802-806 BIAS SWITCH

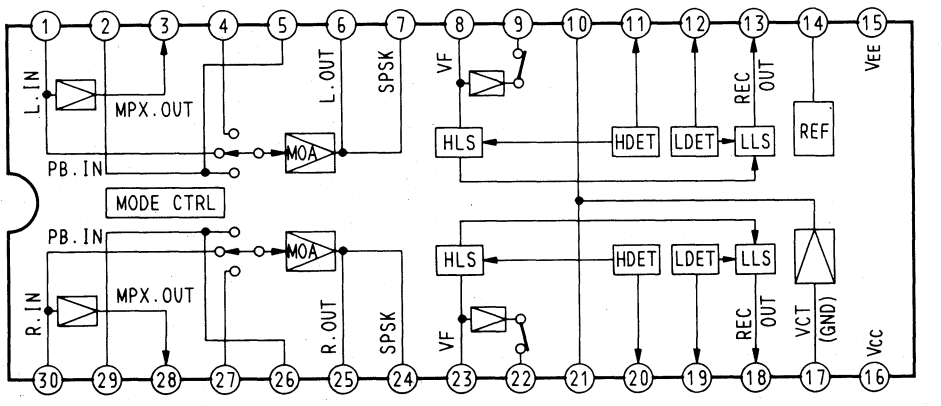


● IC Block Diagrams

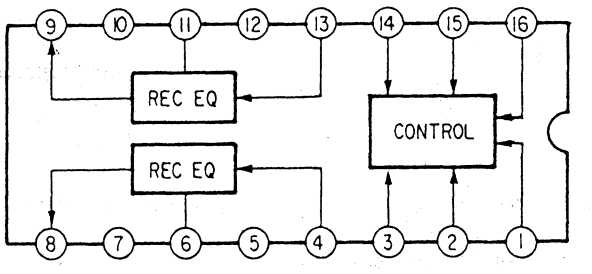
IC501 µPD4053BC



IC503 CXA1331S



IC504 CXA1578P



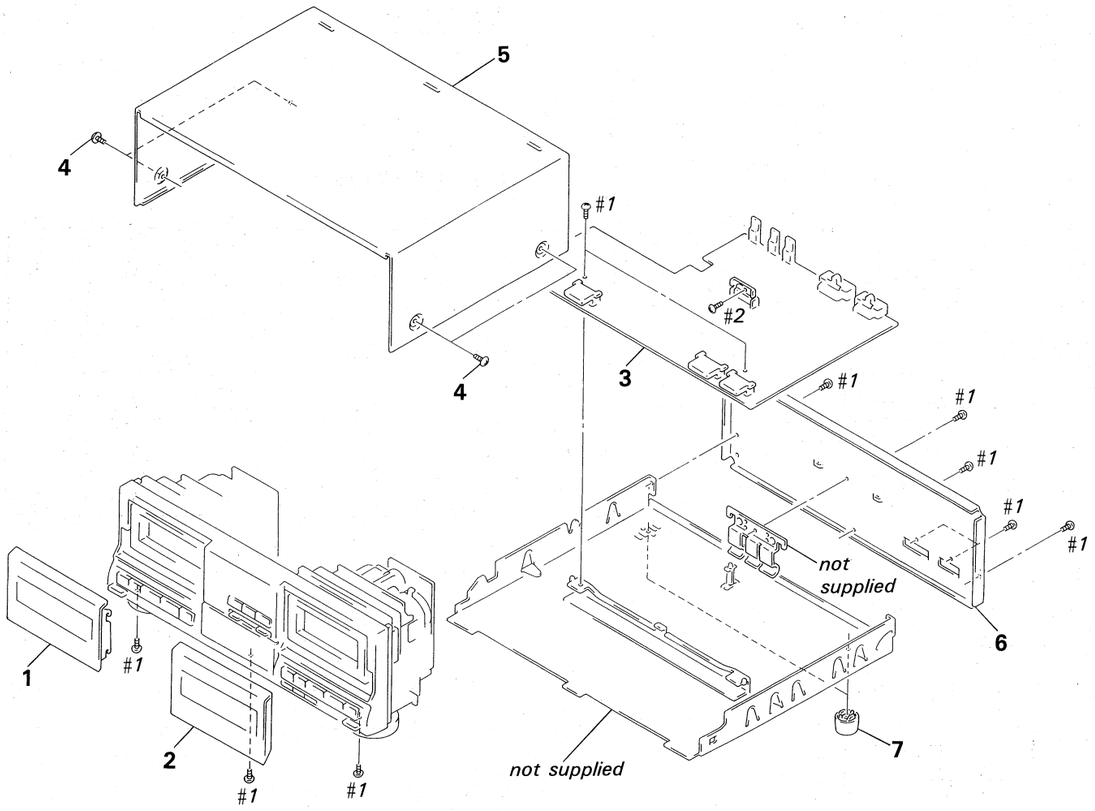
SECTION 6
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE(WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- hardware (#mark) list is given in the last of this parts list.

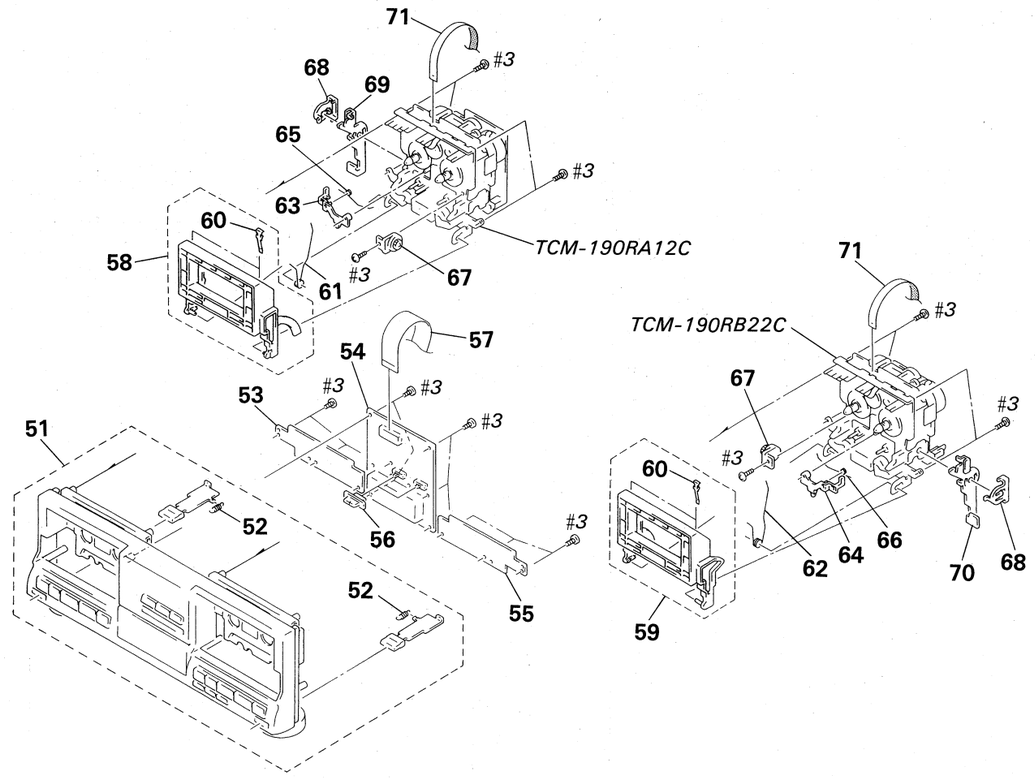
G : Germany
IT : Italian
EE : East European
EA : Saudi Arabia
AUS : Australian

6-1. OVERALL SECTION



Ref. No.	Part No.	Description	Remark
1	X-3364-710-1	LID (A) ASSY, CASSETTE (AEP, G, EE, UK, E, EA, AUS)	
1	X-3364-711-1	LID (A) ASSY, CASSETTE (IT)	
2	X-3364-712-1	LID (B) ASSY, CASSETTE (AEP, G, EE, UK, E, EA, AUS)	
2	X-3364-713-1	LID (B) ASSY, CASSETTE (IT)	
* 3	A-2006-741-A	MAIN BOARD, COMPLETE (AEP, G, IT, EE, UK)	
* 3	A-2006-742-A	MAIN BOARD, COMPLETE (E, EA, AUS)	
4	3-363-099-01	SCREW (CASE +3X8 TP2)	
* 5	4-939-803-31	CASE (AEP, G, EE, UK, E, EA, AUS)	
* 5	4-939-803-71	CASE (IT)	
* 6	3-377-136-11	PANEL, BACK (AEP, IT, EE, UK, E, EA, AUS)	
* 6	3-377-136-21	PANEL, BACK (G)	
7	4-931-169-01	FOOT	

6-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	X-3364-706-1	PANEL ASSY, FRONT (AEP, G, EE, UK, E, EA, AUS)	
51	X-3364-707-1	PANEL ASSY, FRONT (IT)	
52	3-662-752-21	SPRING, TENSION	
* 53	1-643-523-11	CONTROL (A) BOARD	
* 54	1-643-521-11	PANEL BOARD	
* 55	1-643-874-11	CONTROL (B) BOARD	
56	3-377-110-01	KNOB (SLIDE) (AEP, G, EE, UK, E, EA, AUS)	
56	3-377-110-11	KNOB (SLIDE) (IT)	
57	1-590-237-11	WIRE, FLAT TYPE (19 CORE)	
58	X-3340-194-1	HOLDER (L) ASSY, CASSETTE	
59	X-3340-195-1	HOLDER (R) ASSY, CASSETTE	
60	3-308-823-11	SPRING	
61	3-354-959-01	SPRING (LOADING L), TORSION	
62	3-354-960-01	SPRING (LOADING R), TORSION	
63	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
64	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
65	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
66	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
67	3-354-963-01	DAMPER	
68	3-354-957-01	JOINT (LOCK LEVER)	
* 69	3-363-638-01	LEVER (LOCK LEVER L)	
* 70	3-363-639-01	LEVER (LOCK LEVER R)	
71	1-690-906-11	WIRE (FLAT TYPE) (9 CORE)	

6-3. MECHANISM
(TCM-190RA1
TCM-190RB2

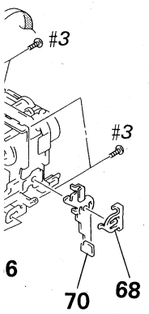
b

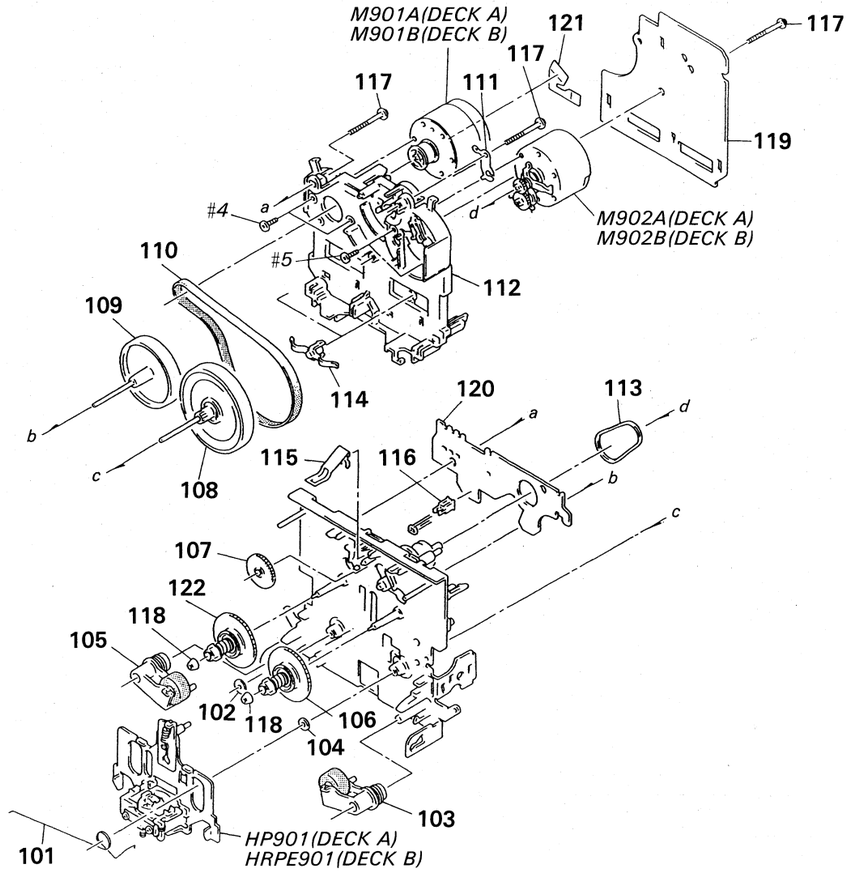
101

Ref. No.	Part No.	De
101	3-359-455-01	SP
102	3-356-714-01	WA
103	X-3359-408-1	LE
104	3-356-713-01	WA
105	X-3359-409-1	LE
106	X-3359-404-1	TA
107	3-359-424-01	GE
108	X-3359-406-1	FL
108	X-3364-554-1	FL
109	X-3359-410-1	FL
110	3-359-417-01	BE
111	3-359-450-01	PL
* 112	3-359-436-01	BA
113	3-359-466-01	BE
114	3-575-321-00	RE
115	3-359-430-01	SP

6-3. MECHANISM SECTION 1

(TCM-190RA12C
TCM-190RB22C)



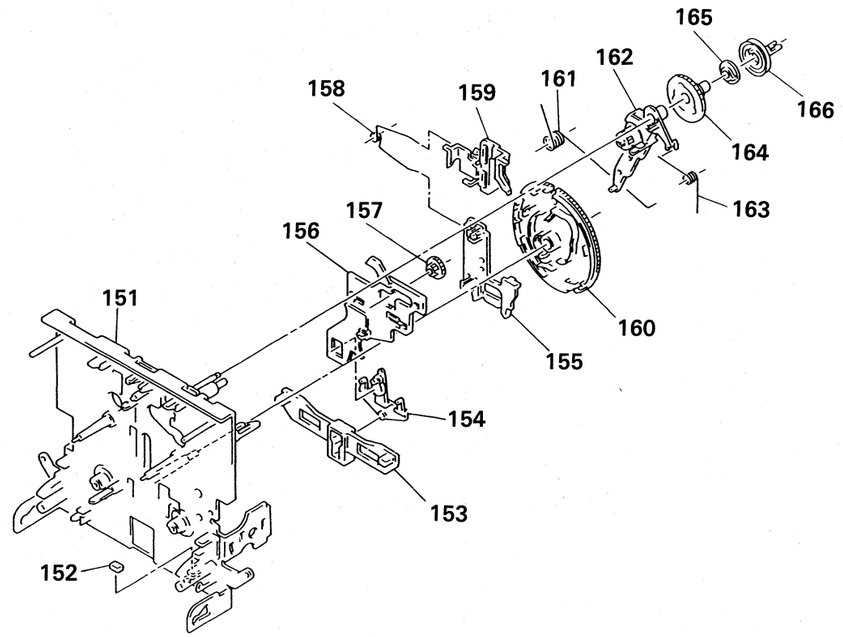


Ref. No.	Part No.	Description	Remark
101	3-359-455-01	SPRING, TORSION	
102	3-356-714-01	WASHER	
103	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
104	3-356-713-01	WASHER	
105	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY	
106	X-3359-404-1	TABLE ASSY, REEL	
107	3-359-424-01	GEAR (REV GEAR)	
108	X-3359-406-1	FLYWHEEL (FWD) COMPLETE ASSY (DECK A)	
108	X-3364-554-1	FLYWHEEL (FWD) ASSY (DECK B)	
109	X-3359-410-1	FLYWHEEL (REV) ASSY	
110	3-359-417-01	BELT (FLAT), CAPSTAN	
111	3-359-450-01	PLATE, GROUND	
✱ 112	3-359-436-01	BASE (THRUST RETAINER), FITTING	
113	3-359-466-01	BELT (FR), SQUARE	
114	3-575-321-00	RETAINER, THRUST, CAPSTAN	
115	3-359-430-01	SPRING (CASSETTE RETAINER), LEAF	

Ref. No.	Part No.	Description	Remark
116	3-343-419-01	HOLDER (S SENSER A)	
117	3-359-414-01	SCREW (+PTPWH 2X23)	
118	3-362-308-01	CAP (REEL)	
✱ 119	A-2006-399-A	MD-A BORAD, COMPLETE (DECK A)	
✱ 119	A-2006-400-A	MD-B BOARD, COMPLETE (DECK B)	
✱ 120	1-634-841-14	SW-A BOARD (DECK A)	
✱ 120	1-634-841-14	SW-B BOARD (DECK B)	
121	1-638-983-11	MOTOR FLEXIBLE BOARD	
122	X-3362-078-1	TABLE ASSY (B), REEL	
HP901	A-2003-837-A	BASE ASSY, HEAD (PB) (DECK A)	
HRPE901	A-2003-838-A	BASE ASSY, HEAD (REC/PB/ERASE) (DECK B)	
M901A	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M901B	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M902A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M902B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	

6-4. MECHANISM SECTION 2

(TCM-190RA12C
TCM-190RB22C)



Ref. No.	Part No.	Description	Remark
151	X-3363-790-1	CHASSIS ASSY, MECHANICAL (DECK A)	
151	X-3359-415-1	CHASSIS ASSY, MECHANICAL (DECK B)	
152	3-359-469-01	SPACER	
✱ 153	3-359-425-01	SLIDER (REVERSE SLIDER)	
154	3-359-426-01	LEVER (REVERSE LEVER)	
✱ 155	3-359-427-01	SLIDER (LEVERSE SLIDER)	
✱ 156	3-359-415-01	SLIDER (TRIGGER SLIDER)	
157	3-359-448-01	GEAR (TRIGGER)	
158	3-359-454-01	SPRING, TORSION	

Ref. No.	Part No.	Description	Remark
159	3-359-429-01	SLIDER (BRAKE PLATE)	
160	3-359-420-01	GEAR (CAM GEAR)	
161	3-359-456-01	SPRING (TRIGGER SPRING), TORSION	
162	X-3359-405-1	LEVER (FR ARM) ASSY	
163	3-359-453-01	SPRING (FR ARM), TORSION	
164	3-359-419-01	GEAR (FR GEAR)	
165	3-359-421-01	CLUTCH (REEL DISK)	
166	3-359-418-01	PULLEY (FR PULLEY)	

SECTION 7
ELECTRICAL PARTS LIST

MAIN **PANEL**

CONTROL (A) **CONTROL (B)**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- RESISTORS
  All resistors are in ohms
  METAL:Metal-film resistor
  METAL OXIDE:Metal Oxide-film resistor
  F:nonflammable
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF: μF
- COILS
  uH: μH

G : Germany
IT : Italian
EE : East European
EA : Saudi Arabia
AUS : Australian

When indication parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.

Ref. No.	Part No.	Description			Remark
*	A-2006-741-A	MAIN BOARD, COMPLETE (AEP, G, IT, EE, UK)			
		**********			
*	A-2006-742-A	MAIN BOARD, COMPLETE (E, EA, AUS)			
		**********			
*	1-643-521-11	PANEL BOARD			
		**********			
*	1-643-523-11	CONTROL (A) BOARD			
		**********			
*	1-643-874-11	CONTROL (B) BOARD			
		**********			
*	3-377-119-01	HOLDER, LED			
*	4-942-204-01	PLATE, GROUND			
	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S			
		< CAPACITOR >			
C101	1-136-157-00	FILM	0.022uF	5%	50V
C102	1-126-059-11	ELECT	10uF	20%	50V (E, EA, AUS)
C103	1-126-059-11	ELECT	10uF	20%	50V
C104	1-126-301-11	ELECT	1uF	20%	50V
C105	1-162-294-31	CERAMIC	0.001uF	10%	50V
C106	1-130-475-00	MYLAR	0.0022uF	5%	50V
C107	1-130-475-00	MYLAR	0.0022uF	5%	50V
C108	1-136-174-00	FILM	0.56uF	5%	50V
C109	1-136-171-00	FILM	0.33uF	5%	50V
C110	1-126-059-11	ELECT	10uF	20%	50V
C112	1-126-162-11	ELECT	3.3uF	20%	50V
C113	1-126-300-11	ELECT	0.47uF	20%	50V
C114	1-126-059-11	ELECT	10uF	20%	50V
C201	1-136-157-00	FILM	0.022uF	5%	50V
C202	1-126-059-11	ELECT	10uF	20%	50V (E, EA, AUS)
C203	1-126-059-11	ELECT	10uF	20%	50V
C204	1-126-301-11	ELECT	1uF	20%	50V
C205	1-162-294-31	CERAMIC	0.001uF	10%	50V
C206	1-130-475-00	MYLAR	0.0022uF	5%	50V
C207	1-130-475-00	MYLAR	0.0022uF	5%	50V
C208	1-136-174-00	FILM	0.56uF	5%	50V
C209	1-136-171-00	FILM	0.33uF	5%	50V
C210	1-126-059-11	ELECT	10uF	20%	50V
C212	1-126-162-11	ELECT	3.3uF	20%	50V
C213	1-126-300-11	ELECT	0.47uF	20%	50V
C214	1-126-059-11	ELECT	10uF	20%	50V
C501	1-124-994-11	ELECT	100uF	20%	10V
C502	1-124-994-11	ELECT	100uF	20%	10V
C503	1-126-059-11	ELECT	10uF	20%	50V
C504	1-126-301-11	ELECT	1uF	20%	50V
C505	1-161-494-00	CERAMIC	0.022uF		25V
C506	1-126-161-11	ELECT	2.2uF	20%	50V
C701	1-124-887-00	ELECT	3300uF	20%	16V
C702	1-124-887-00	ELECT	3300uF	20%	16V
C703	1-126-101-11	ELECT	100uF	20%	16V
C704	1-124-473-11	ELECT	1000uF	20%	10V
C705	1-124-473-11	ELECT	1000uF	20%	10V
C706	1-126-161-11	ELECT	2.2uF	20%	50V
C707	1-124-472-11	ELECT	470uF	20%	10V
C708	1-126-301-11	ELECT	1uF	20%	50V
C711	1-126-161-11	ELECT	2.2uF	20%	50V
C801	1-126-059-11	ELECT	10uF	20%	50V
C802	1-162-288-31	CERAMIC	330PF	10%	50V
C803	1-136-165-00	FILM	0.1uF	5%	50V
C804	1-162-288-31	CERAMIC	330PF	10%	50V
C805	1-136-165-00	FILM	0.1uF	5%	50V
C806	1-126-059-11	ELECT	10uF	20%	50V
C807	1-126-059-11	ELECT	10uF	20%	50V
C808	1-161-494-00	CERAMIC	0.022uF		25V
C809	1-124-994-11	ELECT	100uF	20%	10V
C810	1-161-494-00	CERAMIC	0.022uF		25V
C811	1-161-494-00	CERAMIC	0.022uF		25V

MAIN PANEL CONTROL (A) CONTROL (B)

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN501	1-580-784-11	CONNECTOR, BOARD TO BOARD	
* CN502	1-580-784-11	CONNECTOR, BOARD TO BOARD	
* CN503	1-580-784-11	CONNECTOR, BOARD TO BOARD	
* CN504	1-566-858-41	SOCKET, CONNECTOR 11P (SYSTEM CONTROL 1)	
* CN701	1-566-859-11	SOCKET, CONNECTOR 15P (SYSTEM CONTROL 2)	
CN802	1-568-802-11	SOCKET, CONNECTOR 19P	
* CN803	1-691-670-11	CONNECTOR, BOARD TO BOARD 5P	
* CN804	1-691-670-11	CONNECTOR, BOARD TO BOARD 5P	
* CN805	1-568-828-11	SOCKET, CONNECTOR 9P	
* CN806	1-568-828-11	SOCKET, CONNECTOR 9P	
* CN901	1-568-862-11	SOCKET, CONNECTOR 19P	
* CN902	1-691-746-11	CONNECTOR, BOARD TO BOARD 5P	
* CN903	1-691-746-11	CONNECTOR, BOARD TO BOARD 5P	
		< DIODE >	
D501	8-719-987-63	DIODE 1N4148M	
D701	8-719-200-77	DIODE 10E2N	
D702	8-719-200-77	DIODE 10E2N	
D703	8-719-200-77	DIODE 10E2N	
D704	8-719-200-77	DIODE 10E2N	
D707	8-719-933-33	DIODE HZS6A1L	
D708	8-719-933-33	DIODE HZS6A1L	
D709	8-719-000-78	DIODE UZL-7L2	
D710	8-719-987-63	DIODE 1N4148M	
D711	8-719-987-63	DIODE 1N4148M	
D712	8-719-000-78	DIODE UZL-7L2	
D801	8-719-987-63	DIODE 1N4148M	
D802	8-719-987-63	DIODE 1N4148M (AEP, G, IT, EE, UK)	
D803	8-719-987-63	DIODE 1N4148M	
D804	8-719-987-63	DIODE 1N4148M	
D805	8-719-987-63	DIODE 1N4148M	
D901	8-719-301-38	LED SEL2210S-C (HIGH)	
D902	8-719-301-38	LED SEL2210S-C (NORMAL)	
D903	8-719-301-38	LED SEL2210S-C (CD SYNCH)	
D904	8-719-302-41	LED SEL2910A-C (A FWD)	
D905	8-719-302-41	LED SEL2910A-C (A REV)	
D906	8-719-301-44	LED SEL2410E-D (A STOP)	
D907	8-719-302-41	LED SEL2910A-C (B FWD)	
D908	8-719-302-41	LED SEL2910A-C (B REV)	
D909	8-719-301-44	LED SEL2410E-D (B STOP)	
D910	8-719-302-41	LED SEL2910A-C (PAUSE)	
D911	8-719-301-38	LED SEL2210S-C (REC)	
		< IC >	
IC501	8-759-140-53	IC uPD4053BC	
IC502	8-759-634-51	IC M5218AP (E, EA, AUS)	
IC503	8-752-059-55	IC CXA1331S	
IC504	8-752-055-61	IC CXA1578P	
IC505	8-759-634-51	IC M5218AP	
IC506	8-759-000-49	IC MC14066BCP (E, EA, AUS)	
IC701	8-759-945-58	IC RC4558P	
IC801	8-759-061-69	IC M50964-302SP	
IC802	8-759-207-05	IC TA7272P	
		< FILTER >	
LPF101	1-236-087-11	FILTER, LOW PASS	
LPF201	1-236-087-11	FILTER, LOW PASS	
		< TRANSISTOR >	
Q101	8-729-900-74	TRANSISTOR DTC143TS	
Q102	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q201	8-729-900-74	TRANSISTOR DTC143TS	
Q202	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q501	8-729-900-61	TRANSISTOR DTA114ES	
Q502	8-729-900-89	TRANSISTOR DTC144ES (E, EA, AUS)	
Q505	8-729-900-65	TRANSISTOR DTA144ES	
Q701	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q702	8-729-209-15	TRANSISTOR 2SD2012	
Q703	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q704	8-729-209-15	TRANSISTOR 2SD2012	
Q705	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q706	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q801	8-729-900-89	TRANSISTOR DTC144ES	
Q802	8-729-900-61	TRANSISTOR DTA114ES	
Q803	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q804	8-729-900-61	TRANSISTOR DTA114ES	
Q805	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q806	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q807	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q808	8-729-900-61	TRANSISTOR DTA114ES	
Q809	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q810	8-729-900-61	TRANSISTOR DTA114ES	
Q811	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q812	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q813	8-729-900-61	TRANSISTOR DTA114ES	
Q814	8-729-900-89	TRANSISTOR DTC144ES	
Q815	8-729-801-84	TRANSISTOR 2SB1013-4	
Q816	8-729-801-84	TRANSISTOR 2SB1013-4	
Q817	8-729-900-61	TRANSISTOR DTA114ES	
Q818	8-729-900-65	TRANSISTOR DTA144ES (E, EA, AUS)	
Q819	8-729-900-61	TRANSISTOR DTA114ES	
Q820	8-729-900-89	TRANSISTOR DTC144ES	
		< RESISTOR >	
R101	1-249-421-11	CARBON 2.2K 5% 1/4W	

MAIN PANEL CONTROL (A) CONTROL (B)

Ref. No.	Part No.	Description				Remark
R102	1-249-423-11	CARBON	3.3K	5%	1/4W	
R103	1-247-887-00	CARBON	220K	5%	1/4W	
R104	1-249-421-11	CARBON	2.2K	5%	1/4W	(E, EA, AUS)
R105	1-249-437-11	CARBON	47K	5%	1/4W	(E, EA, AUS)
R106	1-249-417-11	CARBON	1K	5%	1/4W	
R108	1-247-842-11	CARBON	3K	5%	1/4W	
R109	1-249-423-11	CARBON	3.3K	5%	1/4W	
R110	1-249-428-11	CARBON	8.2K	5%	1/4W	
R111	1-249-434-11	CARBON	27K	5%	1/4W	
R112	1-247-864-11	CARBON	24K	5%	1/4W	
R113	1-249-414-11	CARBON	560	5%	1/4W	
R114	1-249-421-11	CARBON	2.2K	5%	1/4W	
R115	1-249-431-11	CARBON	15K	5%	1/4W	
R116	1-249-421-11	CARBON	2.2K	5%	1/4W	
R117	1-249-429-11	CARBON	10K	5%	1/4W	
R118	1-249-421-11	CARBON	2.2K	5%	1/4W	
R201	1-249-421-11	CARBON	2.2K	5%	1/4W	
R202	1-249-423-11	CARBON	3.3K	5%	1/4W	
R203	1-247-887-00	CARBON	220K	5%	1/4W	
R204	1-249-421-11	CARBON	2.2K	5%	1/4W	(E, EA, AUS)
R205	1-249-437-11	CARBON	47K	5%	1/4W	(E, EA, AUS)
R206	1-249-417-11	CARBON	1K	5%	1/4W	
R208	1-247-842-11	CARBON	3K	5%	1/4W	
R209	1-249-423-11	CARBON	3.3K	5%	1/4W	
R210	1-249-428-11	CARBON	8.2K	5%	1/4W	
R211	1-249-434-11	CARBON	27K	5%	1/4W	
R212	1-247-864-11	CARBON	24K	5%	1/4W	
R213	1-249-414-11	CARBON	560	5%	1/4W	
R214	1-249-421-11	CARBON	2.2K	5%	1/4W	
R215	1-249-431-11	CARBON	15K	5%	1/4W	
R216	1-249-421-11	CARBON	2.2K	5%	1/4W	
R217	1-249-429-11	CARBON	10K	5%	1/4W	
R218	1-249-421-11	CARBON	2.2K	5%	1/4W	
R501	1-249-405-11	CARBON	100	5%	1/4W	
R502	1-249-405-11	CARBON	100	5%	1/4W	
R503	1-249-434-11	CARBON	27K	5%	1/4W	
R504	1-249-429-11	CARBON	10K	5%	1/4W	
R505	1-249-413-11	CARBON	470	5%	1/4W	
R506	1-247-864-11	CARBON	24K	5%	1/4W	
R510	1-249-429-11	CARBON	10K	5%	1/4W	
R511	1-249-429-11	CARBON	10K	5%	1/4W	
R512	1-249-441-11	CARBON	100K	5%	1/4W	
R513	1-249-417-11	CARBON	1K	5%	1/4W	
R514	1-249-441-11	CARBON	100K	5%	1/4W	
R515	1-249-427-11	CARBON	6.8K	5%	1/4W	
R516	1-249-413-11	CARBON	470	5%	1/4W	
R517	1-249-429-11	CARBON	10K	5%	1/4W	
R518	1-249-413-11	CARBON	470	5%	1/4W	
R519	1-249-431-11	CARBON	15K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R520	1-247-870-11	CARBON	43K	5%	1/4W	
R521	1-249-433-11	CARBON	22K	5%	1/4W	(E, EA, AUS)
R522	1-249-433-11	CARBON	22K	5%	1/4W	(E, EA, AUS)
R524	1-249-417-11	CARBON	1K	5%	1/4W	
R525	1-249-429-11	CARBON	10K	5%	1/4W	
R526	1-249-429-11	CARBON	10K	5%	1/4W	
R527	1-247-858-11	CARBON	13K	5%	1/4W	
R528	1-247-862-11	CARBON	20K	5%	1/4W	
R529	1-249-417-11	CARBON	1K	5%	1/4W	
R530	1-249-429-11	CARBON	10K	5%	1/4W	
R532	1-247-844-11	CARBON	3.6K	5%	1/4W	
R701	1-249-413-11	CARBON	470	5%	1/4W	
R702	1-249-413-11	CARBON	470	5%	1/4W	
R703	1-249-422-11	CARBON	2.7K	5%	1/4W	
R704	1-247-858-11	CARBON	13K	5%	1/4W	
R705	1-249-429-11	CARBON	10K	5%	1/4W	
R706	1-249-417-11	CARBON	1K	5%	1/4W	
R707	1-247-850-11	CARBON	6.2K	5%	1/4W	
R708	1-249-422-11	CARBON	2.7K	5%	1/4W	
R709	1-249-429-11	CARBON	10K	5%	1/4W	
R710	1-249-429-11	CARBON	10K	5%	1/4W	
R711	1-249-421-11	CARBON	2.2K	5%	1/4W	
R712	1-249-432-11	CARBON	18K	5%	1/4W	
R713	1-249-423-11	CARBON	3.3K	5%	1/4W	
R714	1-249-433-11	CARBON	22K	5%	1/4W	
R715	1-249-435-11	CARBON	33K	5%	1/4W	
R716	1-249-405-11	CARBON	100	5%	1/4W	
R717	1-249-422-11	CARBON	2.7K	5%	1/4W	
R801	1-247-903-00	CARBON	1M	5%	1/4W	
R802	1-249-429-11	CARBON	10K	5%	1/4W	
R803	1-249-425-11	CARBON	4.7K	5%	1/4W	
R804	1-249-405-11	CARBON	100	5%	1/4W	
R805	1-249-393-11	CARBON	10	5%	1/4W	
R806	1-249-433-11	CARBON	22K	5%	1/4W	
R807	1-249-433-11	CARBON	22K	5%	1/4W	
R808	1-249-417-11	CARBON	1K	5%	1/4W	
R809	1-249-433-11	CARBON	22K	5%	1/4W	
R810	1-247-850-11	CARBON	6.2K	5%	1/4W	
R811	1-249-433-11	CARBON	22K	5%	1/4W	
R812	1-249-430-11	CARBON	12K	5%	1/4W	
R813	1-249-429-11	CARBON	10K	5%	1/4W	
R814	1-249-429-11	CARBON	10K	5%	1/4W	
R815	1-249-434-11	CARBON	27K	5%	1/4W	
R816	1-249-429-11	CARBON	10K	5%	1/4W	
R818	1-249-434-11	CARBON	27K	5%	1/4W	
R819	1-249-429-11	CARBON	10K	5%	1/4W	
R820	1-249-421-11	CARBON	2.2K	5%	1/4W	
R821	1-249-421-11	CARBON	2.2K	5%	1/4W	
R822	1-249-422-11	CARBON	2.7K	5%	1/4W	

MAIN PANEL CONTROL (A) CONTROL (B) MD-A

Ref. No.	Part No.	Description			Remark
R823	1-249-422-11	CARBON	2.7K	5%	1/4W
R824	1-249-422-11	CARBON	2.7K	5%	1/4W
R825	1-249-425-11	CARBON	4.7K	5%	1/4W
R826	1-249-433-11	CARBON	22K	5%	1/4W
R827	1-249-429-11	CARBON	10K	5%	1/4W
R828	1-249-413-11	CARBON	470	5%	1/4W
R829	1-249-411-11	CARBON	330	5%	1/4W
R830	1-249-410-11	CARBON	270	5%	1/4W
R831	1-249-410-11	CARBON	270	5%	1/4W
R832	1-249-408-11	CARBON	180	5%	1/4W
R833	1-249-410-11	CARBON	270	5%	1/4W
R834	1-249-410-11	CARBON	270	5%	1/4W
R835	1-249-408-11	CARBON	180	5%	1/4W
R836	1-249-410-11	CARBON	270	5%	1/4W
R837	1-249-411-11	CARBON	330	5%	1/4W
R838	1-247-895-00	CARBON	470K	5%	1/4W
R839	1-247-895-00	CARBON	470K	5%	1/4W
R840	1-247-860-11	CARBON	16K	5%	1/4W
R841	1-249-431-11	CARBON	15K	5%	1/4W
R842	1-249-425-11	CARBON	4.7K	5%	1/4W
R843	1-247-862-11	CARBON	20K	5%	1/4W
R844	1-247-862-11	CARBON	20K	5%	1/4W
R845	1-249-425-11	CARBON	4.7K	5%	1/4W
R846	1-249-415-11	CARBON	680	5%	1/4W
R847	1-249-429-11	CARBON	10K	5%	1/4W
R848	1-249-415-11	CARBON	680	5%	1/4W
R849	1-249-429-11	CARBON	10K	5%	1/4W
R850	1-249-429-11	CARBON	10K	5%	1/4W
R851	1-249-437-11	CARBON	47K	5%	1/4W
R852	1-247-866-11	CARBON	30K	5%	1/4W
R853	1-247-866-11	CARBON	30K	5%	1/4W
R854	1-249-437-11	CARBON	47K	5%	1/4W
R855	1-247-872-11	CARBON	51K	5%	1/4W
R856	1-247-872-11	CARBON	51K	5%	1/4W
R857	1-247-872-11	CARBON	51K	5%	1/4W
R858	1-247-872-11	CARBON	51K	5%	1/4W
R859	1-249-405-11	CARBON	100	5%	1/4W
R860	1-249-405-11	CARBON	100	5%	1/4W
R899	1-249-393-11	CARBON	10	5%	1/4W
R901	1-249-407-11	CARBON	150	5%	1/4W
R902	1-249-409-11	CARBON	220	5%	1/4W
R903	1-249-411-11	CARBON	330	5%	1/4W
R904	1-249-413-11	CARBON	470	5%	1/4W
R905	1-249-415-11	CARBON	680	5%	1/4W
R906	1-249-417-11	CARBON	1K	5%	1/4W
R907	1-249-420-11	CARBON	1.8K	5%	1/4W
R908	1-249-424-11	CARBON	3.9K	5%	1/4W
R909	1-249-407-11	CARBON	150	5%	1/4W

Ref. No.	Part No.	Description			Remark
R910	1-249-409-11	CARBON	220	5%	1/4W
R911	1-249-411-11	CARBON	330	5%	1/4W
R912	1-249-413-11	CARBON	470	5%	1/4W
R913	1-249-415-11	CARBON	680	5%	1/4W
R914	1-249-417-11	CARBON	1K	5%	1/4W
R915	1-249-426-11	CARBON	5.6K	5%	1/4W
R916	1-249-430-11	CARBON	12K	5%	1/4W
R917	1-249-421-11	CARBON	2.2K	5%	1/4W
		< VARIABLE RESISTOR >			
RV101	1-241-630-11	RES, ADJ, CARBON 10K			
RV201	1-241-630-11	RES, ADJ, CARBON 10K			
		< SWITCH >			
S901	1-572-378-11	SWITCH, SLIDE (DIRECTION)			
S902	1-572-378-11	SWITCH, SLIDE (DOLBY NR)			
S903	1-554-303-21	SWITCH, TACTILE (A STOP)			
S904	1-554-303-21	SWITCH, TACTILE (A FWD)			
S905	1-554-303-21	SWITCH, TACTILE (A REV)			
S906	1-554-303-21	SWITCH, TACTILE (B REW)			
S907	1-554-303-21	SWITCH, TACTILE (B FF)			
S908	1-554-303-21	SWITCH, TACTILE (B REC)			
S909	1-554-303-21	SWITCH, TACTILE (DUB HIGH SPEED)			
S910	1-554-303-21	SWITCH, TACTILE (DUB NORMAL SPEED)			
S911	1-554-303-21	SWITCH, TACTILE (CD SYNCHRO)			
S912	1-554-303-21	SWITCH, TACTILE (B STOP)			
S913	1-554-303-21	SWITCH, TACTILE (B PAUSE)			
S914	1-554-303-21	SWITCH, TACTILE (B FWD)			
S915	1-554-303-21	SWITCH, TACTILE (B RVS)			
S916	1-554-303-21	SWITCH, TACTILE (B REC MUTE)			
S917	1-554-303-21	SWITCH, TACTILE (A REW)			
S918	1-554-303-21	SWITCH, TACTILE (A FF)			
		< VIBRATOR >			
X801	1-577-358-21	VIBRATOR, CERAMIC (4MHz)			
**********					
*	A-2006-399-A	MD-A BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-234-00	ELECT	22uF	20%	16V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V

Ref.No.	Part No.	Description			Remark
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C72	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V
		< CONNECTOR >			
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD			
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P			
* CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
		< IC >			
IC31	8-759-106-02	IC uPC4570G2			
		< CHIP JUMPER >			
JW1	1-216-295-00	METAL CHIP	0	5%	1/10W
JW51	1-216-296-00	METAL CHIP	0	5%	1/8W
JW52	1-216-296-00	METAL CHIP	0	5%	1/8W
JW53	1-216-296-00	METAL CHIP	0	5%	1/8W
JW54	1-216-296-00	METAL CHIP	0	5%	1/8W
		< TRANSISTOR >			
Q71	8-729-602-36	TRANSISTOR 2SA1602			
		< RESISTOR >			
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W
R12	1-216-025-00	METAL CHIP	100	5%	1/10W
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W
R22	1-216-025-00	METAL CHIP	100	5%	1/10W
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R31	1-216-033-00	METAL CHIP	220	5%	1/10W
R32	1-216-033-00	METAL CHIP	220	5%	1/10W
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W
		< VARIABLE RESISTOR >			
RV11	1-238-012-11	RES, ADJ, CARBON 1K			
RV21	1-238-012-11	RES, ADJ, CARBON 1K			
RV71	1-238-016-11	RES, ADJ, CARBON 10K			
RV72	1-238-016-11	RES, ADJ, CARBON 10K			

****

Ref.No.	Part No.	Description			Remark
*	A-2006-400-A	MD-B BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-234-00	ELECT	22uF	20%	16V
C14	1-136-273-91	FILM	75PF	5%	630V
C15	1-164-080-11	CERAMIC	390PF	10%	50V
C17	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C24	1-136-273-91	FILM	75PF	5%	630V
C25	1-164-080-11	CERAMIC	390PF	10%	50V
C27	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C33	1-124-234-00	ELECT	22uF	20%	16V
C51	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C52	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C53	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C54	1-136-559-11	FILM	0.0047uF	5%	630V
C56	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C57	1-164-346-11	CERAMIC CHIP	1uF		16V
C58	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C72	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V
		< CONNECTOR >			
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD			
* CNJ33	1-580-782-11	CONNECTOR, BOARD TO BOARD			
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P			
* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P			
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
		< DIODE >			
D31	8-719-988-62	DIODE 1SS355			
		< IC >			
IC31	8-759-106-02	IC uPC4570G2			
		< CHIP JUMPER >			
JW1	1-216-296-00	METAL CHIP	0	5%	1/8W
JW2	1-216-295-00	METAL CHIP	0	5%	1/10W
JW3	1-216-295-00	METAL CHIP	0	5%	1/10W
JW4	1-216-295-00	METAL CHIP	0	5%	1/10W
JW5	1-216-295-00	METAL CHIP	0	5%	1/10W

MD-B SW-A SW-B

Ref. No.	Part No.	Description			Remark
JW6	1-216-295-00	METAL CHIP	0	5%	1/10W
JW7	1-216-295-00	METAL CHIP	0	5%	1/10W
JW52	1-216-296-00	METAL CHIP	0	5%	1/8W
JW53	1-216-296-00	METAL CHIP	0	5%	1/8W
JW54	1-216-296-00	METAL CHIP	0	5%	1/8W
JW55	1-216-296-00	METAL CHIP	0	5%	1/8W
JW56	1-216-296-00	METAL CHIP	0	5%	1/8W
JW57	1-216-296-00	METAL CHIP	0	5%	1/8W
JW58	1-216-296-00	METAL CHIP	0	5%	1/8W
JW59	1-216-296-00	METAL CHIP	0	5%	1/8W
JW60	1-216-296-00	METAL CHIP	0	5%	1/8W
JW61	1-216-296-00	METAL CHIP	0	5%	1/8W
		< COIL >			
L11	1-410-780-11	INDUCTOR	27mH		
L21	1-410-780-11	INDUCTOR	27mH		
		< TRANSISTOR >			
Q51	8-729-808-01	TRANSISTOR	2SD1622-S		
Q52	8-729-808-01	TRANSISTOR	2SD1622-S		
Q53	8-729-808-01	TRANSISTOR	2SD1622-S		
Q71	8-729-602-36	TRANSISTOR	2SA1602		
		< RESISTOR >			
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W
R12	1-216-025-00	METAL CHIP	100	5%	1/10W
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R15	1-249-430-11	CARBON	12K	5%	1/4W
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W
R22	1-216-025-00	METAL CHIP	100	5%	1/10W
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R25	1-249-430-11	CARBON	12K	5%	1/4W
R31	1-216-033-00	METAL CHIP	220	5%	1/10W
R32	1-216-033-00	METAL CHIP	220	5%	1/10W
R41	1-249-393-11	CARBON	10	5%	1/4W
R42	1-249-393-11	CARBON	10	5%	1/4W
R51	1-216-075-00	METAL CHIP	12K	5%	1/10W
R52	1-216-075-00	METAL CHIP	12K	5%	1/10W
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W
R54	1-216-309-00	METAL CHIP	5.6	5%	1/10W
R55	1-216-309-00	METAL CHIP	5.6	5%	1/10W
R56	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W

Ref. No.	Part No.	Description	Remark
		< VARIABLE RESISTOR >	
RV11	1-238-012-11	RES, ADJ, CARBON 1K	
RV12	1-238-551-11	RES, ADJ, CARBON 220K	
RV21	1-238-012-11	RES, ADJ, CARBON 1K	
RV22	1-238-551-11	RES, ADJ, CARBON 220K	
RV71	1-238-016-11	RES, ADJ, CARBON 10K	
RV72	1-238-016-11	RES, ADJ, CARBON 10K	
		< RELAY >	
RY31	1-515-726-11	RELAY	
		< COIL >	
T51	1-406-419-11	COIL, BIAS OSCILLATION	
**********			
*	1-634-841-14	SW-A BOARD	
		**********	
	3-343-419-01	HOLDER (S SENSER A)	
		< CONNECTOR >	
* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P	
		< IC >	
IC81	8-719-710-03	DIODE NJL5165K-B	
		< RESISTOR >	
R84	1-249-417-11	CARBON 1K 5%	1/4W
R85	1-249-408-11	CARBON 180 5%	1/4W
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)	
S82	1-571-281-21	SWITCH, LEAF (7OEQ)	
S86	1-571-281-21	SWITCH, LEAF (HALF)	
**********			
*	1-634-841-14	SW-B BOARD	
		**********	
	3-343-419-01	HOLDER (S SENSER A)	
		< CONNECTOR >	
* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P	
		< IC >	
IC81	8-719-710-03	DIODE NJL5165K-B	

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R81	1-249-414-11	CARBON	560	5%	1/4W
R82	1-247-818-11	CARBON	300	5%	1/4W
R83	1-247-834-11	CARBON	1.3K	5%	1/4W
R84	1-249-417-11	CARBON	1K	5%	1/4W
R85	1-249-408-11	CARBON	180	5%	1/4W
		< SWITCH >			
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)			
S82	1-571-281-21	SWITCH, LEAF (70EQ)			
S83	1-571-281-21	SWITCH, LEAF (METAL)			
S84	1-571-281-21	SWITCH, LEAF (REC A)			
S85	1-571-281-21	SWITCH, LEAF (REC B)			
S86	1-571-281-21	SWITCH, LEAF (HALF)			
		MISCELLANEOUS			
		*************			
57	1-590-237-11	WIRE, FLAT TYPE (19 CORE)			
71	1-690-906-11	WIRE (FLAT TYPE) (9 CORE)			
121	1-638-983-11	MOTOR FLEXIBLE BOARD			
HP901	A-2003-837-A	BASE ASSY, HEAD (PB) (DECK A)			
HRPE901	A-2003-838-A	BASE ASSY, HEAD (REC/PB/ERASE) (DECK B)			
M901A	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK A)			
M901B	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK B)			
M902A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)			
M902B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)			
		ACCESSORIES & PACKING MATERIALS			
		********************************			
*	3-350-154-01	CUSHION			
	4-920-940-01	SHEET (A), PROTECTION			

HARDWARE LIST

#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S	
#3	7-621-773-93	SCREW (PANEL 2.6 TP2)	
#4	7-621-775-00	SCREW +B 2.6X3	
#5	7-627-556-08	SCREW +P 2.6X2.8	